

In re Patent Application of:  
**BRICHER ET AL.**  
Serial No. 10/806,667  
Filing Date: March 23, 2004

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#### REMARKS

The Examiner is thanked for the thorough examination of the present application. In view of the arguments presented in detail below, it is submitted that all of the claims are patentable.

#### I. The Claimed Invention

The present invention is directed to a cryptographic device. As recited in independent Claim 1, for example, the device includes a cryptographic module and a communications module removably coupled thereto. More particularly, the cryptographic module comprises a first housing, a user network interface carried by the first housing, a cryptographic processor carried by the first housing and coupled to the user network interface, and a first connector carried by the first housing and coupled to the cryptographic processor. The communications module includes a second housing, a second connector carried by the second housing and removably mateable with the first connector of the cryptographic module, a network interface carried by the second housing and coupled to the second connector, and at least one logic device for cooperating with the cryptographic processor to determine a status of the communications module.

As discussed at paragraph 0033 of the originally filed specification, for example, the modular design and ease of interchangeability of the cryptographic device not only provides a convenient way to quickly configure the cryptographic module

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---

for different applications, but it may also be particularly useful for high level security applications such as a Type 1, FIPS 140-2 level 4, etc. This is because the evaluation process to have a cryptographic device certified for use with sensitive or classified communications at these levels can be quite lengthy and extensive, and consequently costly. Thus, to manufacture respective cryptographic devices for different network applications can be cost prohibitive since each one will have to individually undergo the rigorous and costly certification.

Independent Claim 13 is directed to a related cryptographic device. Independent Claim 23 is directed to a related communications method, and independent Claim 27 is directed to a related communications system.

## **II. The Claims Are Patentable**

The Examiner rejected independent Claims 1, 13, 23, and 27 under 35 U.S.C. §103(a) over U.S. Patent No. 7,142,557 to Dhir et al. in view of U.S. Patent Pub. No. 2003/0221034 to Cheng. Dhir et al. is directed to a programmable integrated circuit, namely a field programmable gate array (FPGA), that can be used to handle different wireless local area network (WLAN) communication specifications. The integrated circuit includes a transceiver coupled to programmable gates, memory coupled to the programmable gates for storing instructions for programming a first portion of the programmable gates with a selected one of a first type of a medium access layer and a second type of a medium

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---

access layer. The first type of the medium access layer is different from the second type of medium access layer, though both the first type of the medium access layer and the second type of the media access layer are compatible with the transceiver. The memory is configured for storing instructions for programming a second portion of the programmable gates as a baseband controller. See, e.g., col. 2, lines 14-49 of Dhir et al.

While the Examiner correctly acknowledges that Dhir et al. fails to teach a cryptographic module and a communications module that are removably coupled to one another, the Examiner contends that Chen provides these critical deficiencies. Chen is directed to an add-on card for a computer that is detachable from the computer and allows the computer to communicate with both wired and wireless networks. The add-on card includes an access control circuit, volatile and non-volatile memory, a wireless transmission module, and a network connection module. The network connection module has both an antenna for communicating with a wireless network, and a standard network cable port for connecting to a wired network. See, e.g., paragraphs 0009-0010 of Chen.

It is respectfully submitted that the selective combination of references proposed by the Examiner is improper. Turning to the embodiment of the FPGA illustrated in FIG. 8 of Dhir et al. and referenced by the Examiner in the Office Action, the Examiner contends that the encryption engine **321** is

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Serial No. **10/806,667**  
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---

equivalent to the claimed cryptographic module, and that the WLAN transceiver **301** is equivalent to the claimed communications module. As discussed at col. 8, lines 12-22, the transceiver **301** is mounted on a circuit board **330**, and the encryption engine **321** is incorporated in the FPGA **300**, which is also mounted on the circuit board.

The Examiner also contends that the host interface **329**, which is used to program the FPGA **300**, is equivalent to the claimed user network interface. The Examiner then contends that it would have somehow been obvious to implement the transceiver **301** in an add-on form factor such as that set forth in Cheng to make it removably connectable to the FPGA **300**.

As an initial matter, Dhir et al. teaches that the FPGA may be configured to use a common WLAN transceiver **301** that is compatible with both of the above-noted wireless standards by configuring the radio interface and controller **315** differently for each operating mode. See, e.g., col. 8, lines 41-60 of Dhir et al. As such, there is no need to have the transceiver located otherwise than on the same circuit board as the FPGA, which is exactly where Dhir et al. puts it. Yet, the proposed modification would potentially result in a more expensive and complicated removable connection configuration between the transceiver and the FPGA that is simply not necessary.

Moreover, the purpose of the Cheng ad-on card is to provide both wireless and wired connection points from a single computer laptop plug-in card, e.g., a PCMCIA card, to thereby

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utilize only a single card slot on the computer. See, e.g., paragraphs 0011 and 0017 of Cheng. Yet, the proposed combination would impermissibly change the function of the Dhir et al. device, as the radio interface and controller **315** which interfaces the wireless transceiver is not configured for also interfacing a wired connection point. Thus, this would require further modification and change of the function of the radio interface controller **315**, and therefore the FPGA **300**, of Dhir et al.

Accordingly, it is submitted that independent Claims 1, 13, 23, and 27 are patentable over the prior art. Their respective dependent claims, which recite yet further distinguishing features, are also patentable over the prior art and require no further discussion herein.

#### **CONCLUSION**

In view of the amendments to the claims and the arguments provided herein, it is submitted that all the claims are patentable. Accordingly, a Notice of Allowance is requested in due course. Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned attorney at the telephone number listed below.

In re Patent Application of:

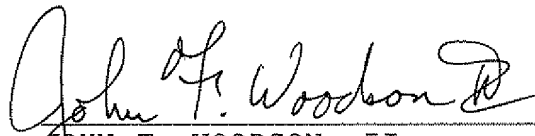
**BRICHER ET AL.**

Serial No. **10/806,667**

Filing Date: **March 23, 2004**

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Respectfully submitted,

A handwritten signature in cursive script, reading "John F. Woodson, II". The signature is written in dark ink and is positioned above a horizontal line.

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